

FOOD CACHING BEHAVIOR OF NESTING WILD HAWK-OWLS

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The literature contains a number of references pertaining to the caching or "deliberate hiding or placement of food" (Oliphant and Thompson 1976) by raptors. Many owl species are known to cache. Collins (1976) and Collopy (1977) provide recent reviews. However, these accounts have most often been outside of the breeding season. During 1975 and 1976 I recorded 11 caching incidents by nesting Hawk-Owl (*Surnia ulula*) near Fairbanks, Alaska. Previously, Smith (1922) once noted caching in the wild, and Collins (1976) saw captive Hawk-Owls cache.

My observations are summarized in table 1. Caching was usually preceded by a ritual similar to that described by Balgooyen (1976) for the Kestrel (*Falco sparverius*): male

Table 1. Caching by nesting Hawk-Owls, Fairbanks, Alaska

Date and Time	Caching Observations
14 June 1975, 0930 hrs	♀ (?) left nest and retrieved vole from spruce tree, 40 m from nest.
14 June 1975, 1000-1430 hrs	An adult flew from the nest and retrieved voles on three occasions.
15 June 1975, 0740 hrs	An adult attempted to feed nestlings a vole; young did not respond, and it flew to spruce mentioned above and cached prey.
22 May 1976, 0745 hrs	♂ brought vole to perch, eviscerated it, made "screeee-yip" call, then cached vole in birch.
22 May 1976, 0835 hrs	♂ uttered "screeee-yip" call, ♀ responded, prey transferred at nest; ♀ cached uneaten portions.
22 May 1976, 1040 hrs	♂ uttered "screeee-yip" call, no response from ♀; ♂ fed, called again; ♀ flew to ♂, fed on vole and cached remainder.
22 May 1976, 1100-1530 hrs	♂ brought two voles to plucking perch, fed ♀ first, cached the second.
22 May 1976, 1800 hrs	♂ inactive, perched near nest; ♀ uttered "screeee-yip" call, but ♂ did not respond; ♀ then flew to spruce nearby and retrieved vole.
22 May 1976, 1850-1900 hrs	♂ flew from perch to birch 10 m from nest, retrieved vole; flew to perch, fed, called, ♀ responded; ♂ flew to nest and transferred prey.

brings prey to perch, feeds on and/or eviscerates prey, calls female, and depending on response transfers or caches prey item. The female hides or retrieves food without calling. Male Hawk-Owls made a "screeee-yip" sound similar to that described for adults and young by Smith (1970), before bringing prey to the nest.

In 1976, after the male was killed by an auto (Jim Curatolo pers. comm.), we tried to feed the nonhunting, brooding female by transferring food to the nest cavity and caching it in trees previously used for this purpose. Although these efforts failed in assisting the young to fledge, the female was observed caching uneaten portions of red squirrels (*Tamiasciurus hudsonicus*) we had given her.

Caching has been described as an effort to exploit the seasonal and/or daily abundance of prey. Southward movements of Hawk-Owls in winter (Eckert 1974) suggest a cyclic availability of their prey, but do not necessarily explain breeding season caching. What purposes might caching during the nesting season serve?

First, caching might provide a key to more efficient expression of duties by the pair. My observations were similar to Mikkola's (1972) indicating that male Hawk-Owls hunted while females incubated and brooded. The caching rituals helped to maintain this segregation of duties. Applegate (1977) has proposed a similar hypothesis for the Loggerhead Shrike (*Lanius ludovicianus*).

Secondly, caching may also reduce potential conflicts at the nest. Although behavioral interpretations for size dimorphism in birds of prey have not been satisfactorily defined (Amadon 1975), caching could reduce possibilities for aggressive interactions by limiting the number of food exchanges and contacts between members of a pair. Caching locations, usually in view of the brooding female, represent neutral intermediates. Furthermore, fewer visits to the nest might reduce its conspicuousness and the likelihood for predator attraction. Finally, storage of food elsewhere might facilitate sanitation in the crowded nest environment and maximize use of the prey resource.

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